



Docket No.: 21829/91 (EBC-007)

PATENT

THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Wei et al.

Serial No. : 09/880,371

Cnfrm. No. : 4973

Filed : June 13, 2001

For : METHODS OF IMPROVING THE
EFFECTIVENESS OF TRANSGENIC PLANTS

Examiner:
A. Kubelik

Art Unit:
1638

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RESPONSE TO RESTRICTION REQUIREMENT

U.S. Patent and Trademark Office
P.O. Box 2327
Arlington, VA 22202

Dear Sir:

In response to the written office action dated July 3, 2002 in which a restriction requirement was imposed by the U.S. Patent and Trademark Office ("PTO"), applicants hereby elect the subject matter of:

(i) Group I (i.e., claims 1-21) and

(ii) *Erwinia* hypersensitive response elicitor proteins or polypeptides,

with traverse upon the following grounds.

With respect to the restriction among Groups I-II, applicants submit that these groups of invention are sufficiently related and would require common areas of search and consideration. Therefore, no burden exists for search and examination of these groups of invention.

Applicants also submit that restriction among different bacterial pathogens (i.e., other than *Phytophthora*) is improper and should be withdrawn. The present invention of Group I relates to the discovery that transgenic characteristics of transgenic plants can be enhanced by the topical application of a hypersensitive response elicitor protein or

polypeptide to a transgenic plant or plant seed. The claimed invention is generic to the type of hypersensitive response elicitor protein or polypeptide and restriction to an individual hypersensitive response elicitor protein or polypeptide or the several hypersensitive response elicitor proteins or polypeptides from a genus of pathogen is unwarranted.

Moreover, the various hypersensitive response elicitor proteins or polypeptides of bacterial pathogens are known to fall within an art recognized class which is characterized by the following characteristics: glycine rich, heat stable, hydrophilic, capable of inducing a hypersensitive response in tobacco after recombinant expression, susceptible to proteolysis, and substantially lacking in cysteine. See U. Bonas, "Bacterial Home Goal by Harpins," Trends Microbiol. 2: 1-2 (1994)("Bonas I"), attached hereto at Exhibit 1; U. Bonas, "hrp Genes of Phytopathogenic Bacteria," Current Topics in Microbiology and Immunology 192: 79-98 (1994)("Bonas II"), attached hereto as Exhibit 2; and G. Preston, et. al., "The HrpZ Proteins of *Pseudomonas syringae* pvs. *syringae*, *glycinea*, and *tomato* are Encoded by an Operon Containing *Yersinia ysc* Homologs and Elicit the Hypersensitive Response in Tomato but not Soybean," MPMI 8(5): 717-32 (1995)("Preston"), attached hereto as Exhibit 3. Therefore, although the hypersensitive response elicitor proteins of bacterial pathogens may differ one from another in amino acid sequence, they share these fundamental characteristics which define their class. Moreover, as claimed they all share the same function and same effect when used to treat transgenic plants or plants seeds (see claim 2).


Finally, the PTO has ignored the Manual of Patent Examining Procedure rules governing the handling of generic or linking claims. See MPEP § 809. Claim 1 is not limited to any one particular hypersensitive response elicitor protein or polypeptide. As such, claim 1 is a generic linking claim that links together various members of the Markush group of claims 11 and 21. According to MPEP § 809.03, claims to a genus which link together claims to species should specifically be designated as linking claims at the time the restriction is made. As linking claims, they also should not be associated with any one of the linked groups. MPEP § 814. Where linking claims are involved, allowance of a linking claim would provide for rejoinder of all linked claims to species. MPEP § 809.03.

In view of all of the foregoing, applicants submit that the restriction requirement should be withdrawn with respect to Groups I and II. Even absent such

withdrawal, restriction among the different bacterial pathogens is improper and should be withdrawn.

Respectfully submitted,

Date: July 23, 2002


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